SAMSUNG TECHWIN

NETWORK CAMERA

User Manual

SNZ-5200

use-IP
www.use-ip.co.uk
01304 827609

CE

SAMSUNG

Network Camera

User Manual

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- **Design and specifications are subject to change without prior notice.**
- **The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.**
  Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

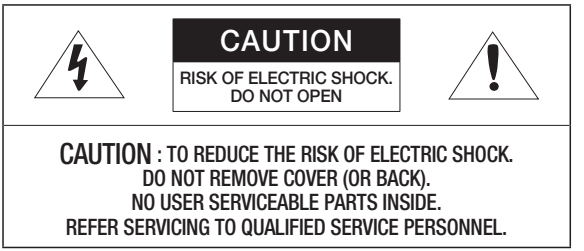
WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENNINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.

CAUTION


CAUTION
RISK OF ELECTRIC SHOCK.
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

Disconnection Device

Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

The BNC Out terminal of the product is provided for easier installation, and is not recommended for monitoring purposes.
If you keep the BNC cable connected, a risk of lightening may cause damage or malfunction to the product.

Please use the input power with just one camera and other devices must not be connected.

overview

Please read the following recommend safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.
- Do not expose the camera to radioactivity.

User's Manual is a guidance book for how to use the products.
The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

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PRODUCT FEATURES

- **HD Video Quality**
- **Multi-Streaming**
  This network camera can display videos in different resolutions and qualities simultaneously using different CODECs.
  - However, MPEG-4 video can not be played on a web page. Use CMS software if you want to play the video on a web page.
- **Web Browser-based Monitoring**
  Using the Internet web browser to display the image in a local network environment.
- **Alarm**
  If an event occurs, the event-related video will be transferred to the email specified by the user or saved to the Micro SD memory, or the event signal will be sent to the Alarm Out port.
- **Intelligent Video Analysis**
  Analyzes the event video according to the user-specified rules to recognize the event.
- **Auto Detection of Disconnected Network**
  Detects network disconnection before triggering an event.
- **ONVIF Compliance**
  This product supports ONVIF.
  For more information, refer to www.onvif.org.

ONVIF
Driving network video through global standardization

RECOMENDED PC SPECIFICATIONS

- CPU : Intel(R) Core(TM)2 2.00 GHz or higher
- Operating System : Microsoft Windows 7/VISTA/XP SP3, Apple MAC OS
- Resolution : 1280X1024 pixels or higher
- RAM : 1GB or higher
- Web Browser : Firefox, Google Chrome, *Apple Safari, Windows Internet Explorer 9.0(32bit) /8.0(32bit)/7.0(32bit)/6.0 SP3
  - Neither a beta test version unlike the version released in the company website nor the developer version will be supported.
  - It is recommended to connect to IPv6 in Windows 7.
  - For Mac OSX, only the Safari browser is supported.

- Video Memory : 128MB or higher

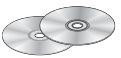
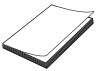
  - If the driver of the video graphic adapter is not installed properly or is not the latest version, the video may not be played properly.
  - For a multi-monitoring system involving at least 2 monitors, the playback performance can be deteriorated depending on the system.

RECOMENDED MICRO SD/SDHC MEMORY CARD SPECIFICATIONS

- 4GB ~ 32GB
- To ensure proper recording of video data, it is recommended you use a memory card that supports at least read/write speed 10Mbps and Class 6.

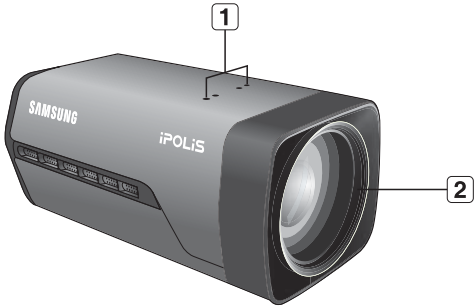
WHAT'S INCLUDED

Please check if your camera and accessories are all included in the product package.

Appearance	Item Name	Quantity	Description
	User Manual, Installer S/W CD, CMS S/W DVD	2	
	Quick Guide	1	
	Camera Holder (Mount)	1	Used to install the camera holder
	Camera Holder (Mount) Screws	2	Used to install the mount

AT A GLANCE

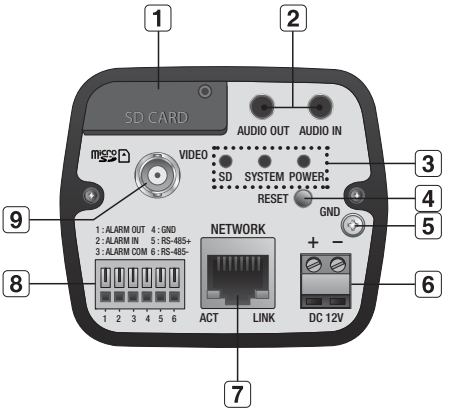
Front Side



Item		Description
1	Camera Holder (Mount) Holes	Used when you mount the camera onto the bracket by fixing the camera holder (mount) adaptor with the bracket.
2	Zoom Lens	Built-in zoom lens.

- Wipe out a dirty surface of the lens softly with a lens tissue or cloth to which you have applied ethanol.

Rear Side



Item		Description	
1	Micro SD Memory Card Compartment	Compartment for the Micro SD memory card.	
2	Audio terminal	AUDIO OUT	Terminal for audio output.
		AUDIO IN	Terminal for audio input.
3	System, Power, SD Indicators	SD	ON : A memory card is inserted and operates normally. Flashing : Failed to record, insufficient space, or inserted abnormally. OFF : Camera is off, camera is restarting, or memory card is not in place.
		SYSTEM	ON : The camera is turned on and connected to the network properly. Flashing : During DDNS setup, or in case of setup failure, or in a state of unstable network connection. OFF : When the system is rebooting, or turned off.

Item	Description	
3 System, Power, SD Indicators	POWER	ON : While the power is on OFF : If the power is off
4 Reset Button	Resets the camera settings to the default. Press and hold it for about 5 seconds to turn off the system indicator and restart the system. ! If you reset the camera, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.	
5 GND	Used for earth-grounding.	
6 Power Port	Used to plug the power cable.	
7 Network Port	Used to connect a PoE or LAN cable.	
8 I/O Port	ALARM OUT	Used to connect the alarm output signal.
	ALARM IN	Used to connect the alarm input signal.
	ALARM COM	Common port where the alarm output signal is connected.
	GND	Used for earth-grounding.
	RS-485+	RS-485 Data line
	RS-485-	RS-485 Data line
9 Video Out Port	Analog video output port. (for installation)	

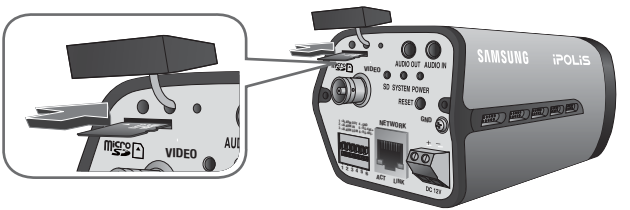
! ▪ RS-485 port only supports direct connection with pan/tilt driver and external connections of the RS-485 controller is not supported.

INSERTING/REMOVING A MICRO SD MEMORY CARD

- Disconnect the power cable from the camera before inserting the Micro SD memory card.

Inserting a Micro SD Memory Card

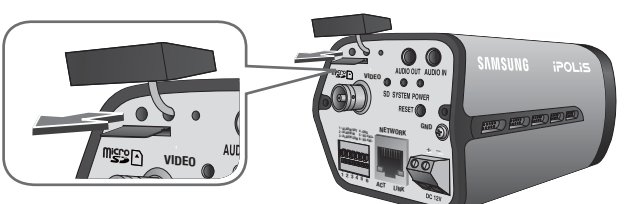
As shown, loosen the screw before removing the Micro SD memory card. Insert the micro Micro SD card in the arrow direction.



- Do not insert the Micro SD memory card while it's upside down by force. Otherwise, it may damage the Micro SD memory card.

Removing a Micro SD Memory Card

Gently press down on the exposed end of the memory card as shown in the diagram to eject the memory card from the slot.



- Pressing too hard on the Micro SD memory card can cause the card to shoot out uncontrollably from the slot when released.
- To remove the Micro SD memory card, set <**Record**> to <**Off**> from <**SD record**> and press [**Apply (✔)**]. (page 63)
- If you remove the micro SD memory card that contains data from the product, the data may be lost or damaged.
- If there occurs a problem in the Micro SD memory, the SD LED indicator will blink.

MEMORY CARD INFORMATION (NOT INCLUDED)

What is a memory card?

The memory card is an external data storage device that has been developed to offer an entirely new way to record and share video, audio, and text data using digital devices.

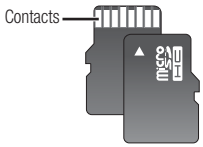
Selecting a memory card that's suitable for you

Your camera supports Micro SD/SDHC memory cards.
You may, however, experience compatibility issues depending on the model and make of the memory card.

For your camera, we recommend you use a memory card from the following manufacturers:
Micro SD/SDHC Memory Card : Sandisk, Transcend

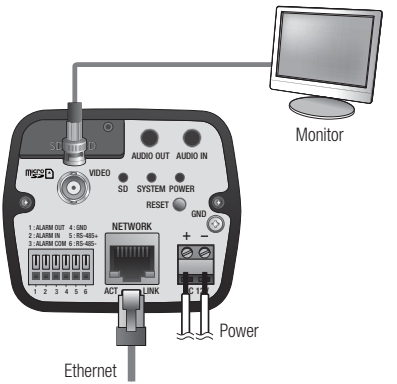
Playback performance can be affected depending on the speed of memory card, so use the high-speed memory card.

❖ **Memory Card Components**



Micro SD/SDHC

CONNECTING WITH OTHER DEVICE



Connecting to the monitor

Connect the video out port of the camera to the video input port of the monitor.

- In the initial installation of the camera, you can connect the camera to the monitor for checking the connection status.
  You must set <**Video output**> to <**On**> before the display screen can be activated. (page 45)
- You can set the video output type to either NTSC or PAL. (page 45)

Ethernet Connection

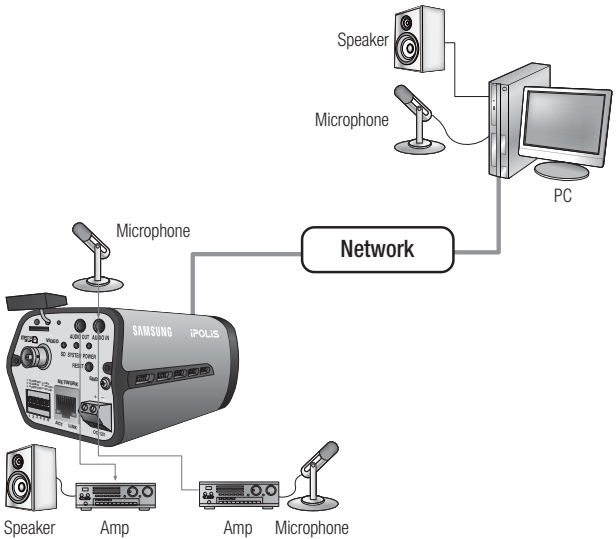
Connect the Ethernet cable to the local network or to the Internet.

Power Supply

Use the screwdriver to connect each line (+, –) of the power cable to the corresponding power port of the camera.

- Be careful not to reverse the polarity when you connect the power cable.
  You can also use a router featuring PoE (Power over Ethernet) to supply power to the camera.
- If PoE and DC 12V are both applied, this camera will get supplied with power from PoE.
- Please make sure the monitor and camera are turned off when connecting them.

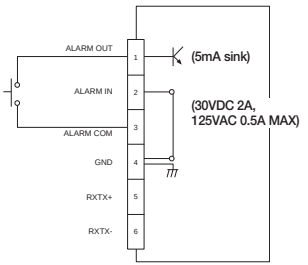
Connecting to Audio Input/Output



1. Connect the AUDIO IN port of the camera with the microphone directly or LINE OUT port of the amplifier that the microphone is connected to.
2. Connect the AUDIO OUT port of the camera with the LINE IN port of the speaker.
3. Check the specifications for audio input.

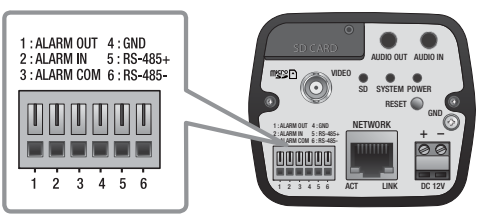
- **Audio Codec**
  G.711 PCM. μ-law 64kbps 8kHz sampling
- **Full duplex Audio**
- **Audio in**
  Used for mono signal line input (Max.2.4 Vpp)
- **Audio out**
  Used for mono signal line output (Max.2.4 Vpp)
- **Line out impedance**
  600Ω

Alarm I/O Wiring Diagram



Connecting to the I/O port box

Connect the Alarm I/O signal to the corresponding port of the rear port box.



- ALARM OUT : Used to connect the alarm output signal.
- ALARM IN : Used to connect the alarm input signal.
- ALARM COM : Common port where the alarm output signal is connected.
- GND : Used for earth-grounding.
- RS-485+ : Communication port for RS-485 receiver (+).
- RS-485- : Communication port for RS-485 receiver (-).

Connecting an external RS-485 device

Connect the camera with an external device using the [**RS-485 +, -**] ports.
You can control the pan/tilt operations of the camera via RS-485 communications.

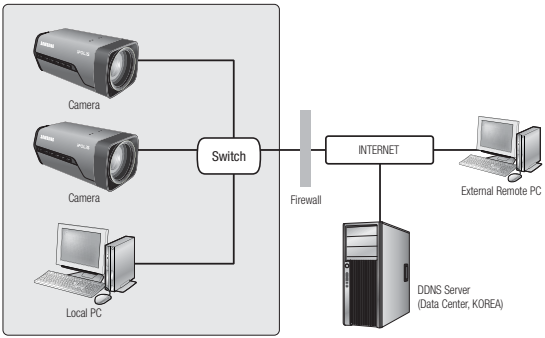
- The GND connection is recommended for RS-485 communications. If you encounter a communication failure, connect the GND pin as appropriate to correct the GND level between camera and external device.

You can set up the network settings according to your network configurations.

CONNECTING THE CAMERA DIRECTLY TO LOCAL AREA NETWORKING

Connecting to the camera from a local PC in the LAN

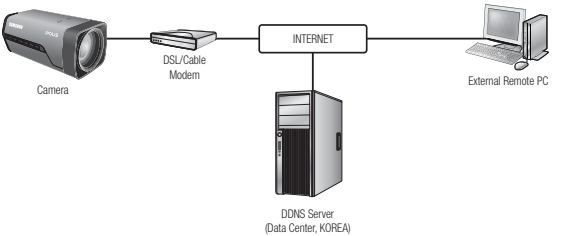
1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera in the address bar of the browser.



<Local Network>

- A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set. In this case, to resolve the problem, contact your network administrator.
- By factory default, the IP address will be assigned from the DHCP server automatically. If there is no DHCP server available, the IP address will be set to 192.168.1.100. To change the IP address, use the IP Installer. For further details on IP Installer use, refer to "**Static IP Setup**". (Page 24)

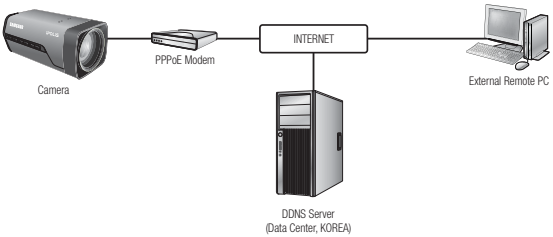
CONNECTING THE CAMERA DIRECTLY TO A DHCP BASED DSL/CABLE MODEM



1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the camera.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**DHCP**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 57)
- For configuring the DDNS settings, refer to "**DDNS**". (page 56)
- For setting the network type, refer to "**Interface**". (page 55)

CONNECTING THE CAMERA DIRECTLY TO A PPPoE MODEM

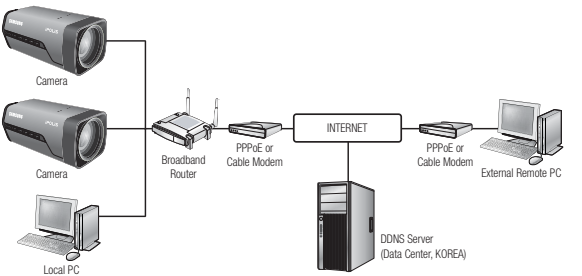


1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the camera.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**PPPoE**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 57)
- For configuring the DDNS settings, refer to "**DDNS**". (page 56)
- For setting the network type, refer to "**Interface**". (page 55)

CONNECTING THE CAMERA TO A BROADBAND ROUTER WITH THE PPPoE/CABLE MODEM

This is for a small network environment such as homes, SOHO and ordinary shops.



Configuring the network settings of the local PC connected to a Broadband Router

Configuring the network settings of the local PC connected to a Broadband Router, follow the instructions below.

- Select : <**Network Neighborhood**> → <**Properties**> → <**Local Area Connection**> → <**Properties**> → <**General**> → <**Internet Protocol (TCP/IP)**> → <**Properties**> → <**Obtain an IP address automatically**> or <**Use the following IP address**>.
- Follow the instructions below if you select <**Use the following IP address**>:

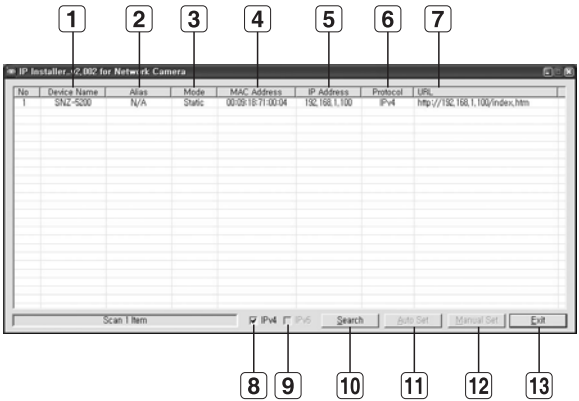
ex1) If the address (LAN IP) of the Broadband Router is 192.168.1.1
IP address : 192.168.1.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.1.1

ex2) If the address (LAN IP) of the Broadband Router is 192.168.0.1
IP address : 192.168.0.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.0.1

ex3) If the address (LAN IP) of the Broadband Router is 192.168.xxx.1
IP address : 192.168.xxx.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.xxx.1

- For the address of the Broadband Router, refer to the product's documentation.
- For more information about port forwarding of the broadband router, refer to "**Port Range Forward (Port Mapping) Setup**". (Page 28)

BUTTONS USED IN IP INSTALLER



Item	Description
1 **Device Name**	Model name of the connected camera. Click the column to sort the list by model name. However, search will be stopped if clicked during the search.
2 **Alias**	This function is not currently implemented.
3 **Mode**	Displays either <**Static**>, <**Dynamic**> or <**PPPoE**> for the current network connection status.
4 **MAC(Ethernet) Address**	Ethernet address for the connected camera. Click the column to sort the list by Ethernet address. However, search will be stopped if clicked during the search.
5 **IP Address**	IP address. Click the column to sort the list by IP address. However, search will be stopped if clicked during the search.
6 **Protocol**	Network setting for the camera. The factory default is “IPv4”. Cameras with the IPv6 setting will be displayed “IPv6”.

Item	Description
7 URL	DDNS URL address enabling access from the external Internet. However, this will be replaced with the <**IP Address**> of the camera if DDNS registration has failed.
8 IPv4	Scans for cameras with the IPv4 setting.
9 IPv6	Scans for cameras with the IPv6 setting.
10 Search	Scans for cameras that are currently connected to the network. However, this button will be grayed out if neither IPv4 nor IPv6 is checked.
11 Auto Set	The IP Installer automatically configures the network settings.
12 Manual Set	You should configure the network settings manually.
13 Exit	Exits the IP Installer program.

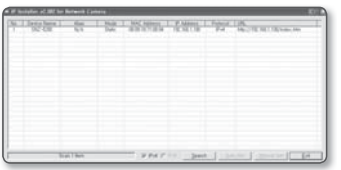
- For the IP installer, use only the installer version provided in the installation CD or use the latest one if available. You can download the latest version from the Samsung web site (www.samsungcctv.com).

STATIC IP SETUP

Manual Network Setup

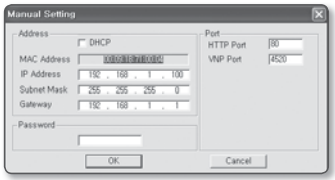
Run <**IP Installer_v2.XX.exe**> to display the camera search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

- For cameras found with the IPv6 setting, these buttons will be grayed out as the cameras do not support this function.



1. Select a camera in the search list. Find the MAC (Ethernet) address labeled on the rear of the camera. Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.
2. Click [**Manual Set**]. The Manual Setting dialog appears. The default values of <**IP Address**>, <**Subnet Mask**>, <**Gateway**>, <**HTTP Port**> and <**VNP Port**> of the camera will be displayed.

3. In the <**Address**> pane, provide the necessary information.
   - MAC (Ethernet) Address : The MAC (Ethernet) address of the applicable camera will be set automatically so you don't need to input it manually.



- You can configure the static IP settings only if the DHCP checkbox is unchecked.

If using a Broadband Router

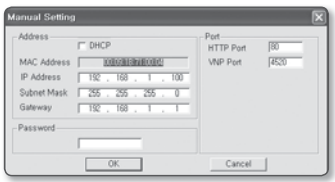
- IP Address : Enter an address falling in the IP range provided by the Broadband Router.
  ex) 192.168.1.2~254,
  192.168.0.2~254,
  192.168.XXX.2~254
- Subnet Mask : The <**Subnet Mask**> of the Broadband Router will be the <**Subnet Mask**> of the camera.
- Gateway : The <**Local IP Address**> of the Broadband Router will be the <**Gateway**> of the camera.

- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.
- For more information about port forwarding of the broadband router, refer to "**Port Range Forward (Port Mapping) Setup**". (Page 28)

If not using a Broadband Router

For setting <**IP Address**>, <**Subnet Mask**>, and <**Gateway**>, contact your network administrator.

4. In the <**Port**> pane, provide necessary information.
   - HTTP Port : Used to access the camera using the Internet browser, defaulted to 80. Use the spin button to change the HTTP Port value.
   - VNP Port : Used to control the video signal transfer, defaulted to 4520.



5. Enter the password.
   This is the login password for the "**admin**" user who accesses the camera.
   The default password is "**4321**".

- The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
  Note that the security and other related issues caused by the unchanged password shall be responsible for the user.
- If you want to change the password, refer to "**Administrator Password Change**" of the user setup. (page 72)

6. Click [**OK**].
Manual network setup will be completed.

If the Broadband Router has more than one camera connected

Configure the IP related settings and the Port related settings distinctly with each other.

ex)

Category		Camera #1	Camera #2
IP related settings	IP Address Subnet Mask Gateway	192.168.1.100 255.255.255.0 192.168.1.1	192.168.1.101 255.255.255.0 192.168.1.1
Port related settings	HTTP Port VNP Port	8080 4520	8081 4521

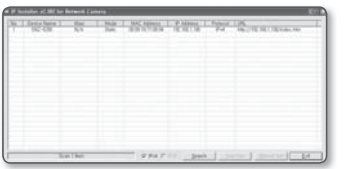
- If the <**HTTP Port**> is set other than 80, you must provide the <**Port**> number in the address bar of the Internet browser before you can access the camera.
  ex) http://IP address : HTTP Port
  http://192.168.1.100:8080

Auto Network Setup

Run <**IP Installer_v2.XX.exe**> to display the camera search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

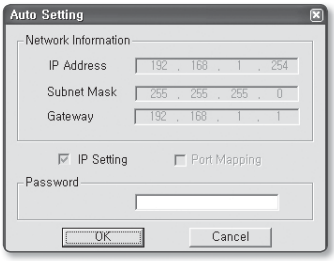
- For cameras found with the IPv6 setting, these buttons will be grayed out as the cameras do not support this function.

1. Select a camera in the search list.
Find the MAC (Ethernet) address labeled on the rear of the camera.
Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.



2. Click [**Auto Set**].
   The Auto Setting dialog appears.
   The <**IP Address**>, <**Subnet Mask**>, and <**Gateway**> will be set automatically.

3. Enter the password.
   This is the login password for the "**admin**" user who accesses the camera. The default password is "**4321**".
   - The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
     Note that the security and other related issues caused by the unchanged password shall be responsible for the user.



   - If you want to change the password, refer to "**Administrator Password Change**" of the user setup. (page 72)

4. Click [**OK**].
   Auto network setup will be completed.

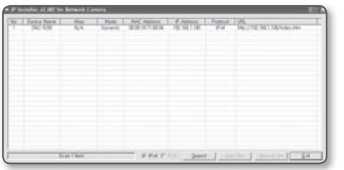
DYNAMIC IP SETUP

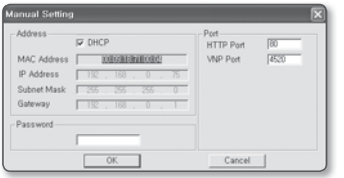
Dynamic IP Environment Setup

- Example of the Dynamic IP environment
  - If a Broadband Router, with cameras connected, is assigned an IP address by the DHCP server
  - If connecting the camera directly to modem using the DHCP protocols
  - If IPs are assigned by the internal DHCP server via the LAN

Checking the Dynamic IP

1. Run the IP Installer on the user's local machine to display cameras allocated with <**Dynamic IP**> addresses in the list.
2. Select a camera in the list, and click [**Manual Set**] to check the <**Dynamic IP**> of the camera.
   If you uncheck <**DHCP**>, you can change IP to <**Static**>.





PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed a Broadband Router with a camera connected, you must set the port range forwarding on the Broadband Router so that a remote PC can access the camera in it.

Manual Port Range Forwarding

1. From the Setup menu of the Broadband Router, select <**Applications & Gaming**> - <**Port Range Forward**>.
   For setting the port range forward for a third-party Broadband Router, refer to the user guide of that Broadband Router.
2. Select <**TCP**> and <**UDP Port**> for each connected camera to the Broadband Router.
   Each port number for the Broadband Router should match that specified in <**Network**> - <**Port**> from the camera's Setup menu.

3. When done, click [**Save Settings**].
   Your settings will be saved.

- Above sample instructions are based on the CISCO's Broadband Router.
- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.

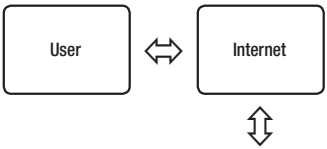
Setting up Port Range Forward for several network cameras

When several network cameras are connected to one Broadband Router device, you should forward the TCP 943 port of the router to the TCP 943 port of a connected camera.

- If you don't set properly the TCP 943 port of the router, you cannot get any video stream from the web page of the camera.

- TCP 943 port is a port for the Silverlight policy server of a camera.
- You can set a rule of Port Forwarding on the Broadband Router device through its configuration web page.
- You cannot change the Silverlight policy server port of a camera.
- You can change the ports of the camera except the policy server port through its configuration web pages.

When Camera1 and Camera2 are connected to a router :



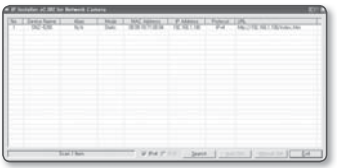
Broadband Router			
Start	End	Protocol	IP Address
943	943	TCP	192.168.1.100
3000	3000	TCP/UDP	192.168.1.100
3001	3001	TCP/UDP	192.168.1.101
4520	4520	TCP/UDP	192.168.1.100
4521	4521	TCP/UDP	192.168.1.101
8080	8080	TCP/UDP	192.168.1.100
8081	8081	TCP/UDP	192.168.1.101

Camera1 (192.168.1.100)	
HTTP Port	8080
VNP Port	4520
RTSP Port	3000
Policy Server Port	943

Camera2 (192.168.1.101)	
HTTP Port	8081
VNP Port	4521
RTSP Port	3001
Policy Server Port	943

CONNECTING TO THE CAMERA FROM A SHARED LOCAL PC

1. Run the IP Installer.
   It will scan for connected cameras and display them as a list.
2. Double-click a camera to access.
   The Internet browser starts and connects to the camera.



- Access to the camera can also be gained by typing the camera's IP address in the address bar of the Internet browser.

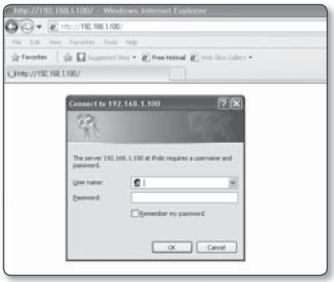
CONNECTING TO THE CAMERA FROM A REMOTE PC VIA THE INTERNET

Since using the IP Installer on a remote computer that is not in the Broadband Router's network cluster is not allowed, users can access cameras within a Broadband Router's network by using the camera's DDNS URL.

1. Before you can access a camera in the Broadband Router network, you should have set the port range forward for the Broadband Router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the camera, or the IP address of the Broadband Router in the address bar.
   ex) http://www.samsungipolis.com/[Product ID]
   For registering the DDNS settings, refer to "**Registering with DDNS**". (page 57)

CONNECTING TO THE CAMERA

Normally, you would



1. Launch the Internet browser.
2. Type the IP address of the camera in the address bar.
   ex) • IP address (IPv4) : 192.168.1.100
   → http://192.168.1.100
   - the Login dialog should appear.
   • IP address (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111
   → http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - the Login dialog should appear.

If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the camera in the address bar.
   ex) IP address : 192.168.1.100:HTTP Port number(8080)
   → http://192.168.1.100:8080 - the Login dialog should appear.

Using URL

1. Launch the Internet browser.
2. Type the DDNS URL of the camera in the address bar.
   ex) URL address : http://www.samsungipolis.com/[Product ID]
   - the Login dialog should appear.

To check the DDNS address

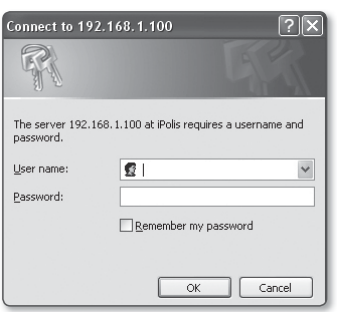
If the camera is connected directly to the DHCP cable modem, DSL modem, or PPPoE modem, the IP address of your network will be changed each time you try to connect to the ISP (Internet Service Provider) server.
If this is the case, you will not be informed of the IP address changed by DDNS.

Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.
To add the IP address to the <**DDNS**> server, visit www.samsungipolis.com and register your device, and set the DDNS option to <**Samsung DDNS**> before providing the product ID for the DDNS server.

LOGIN

The default user ID is "**admin**", and the default password is "**4321**".

1. Enter "**admin**" in the <**User Name**> input box.
2. Enter "**4321**" in the <**Password**> input box.
   If the password is changed, enter the changed password instead.
3. Click [**OK**].
   If you have logged in successfully, you will the Live Viewer screen.



- For security purposes, ensure that you change the password in <**System**> - <**User**>.
  The administrator ID, "**admin**", is fixed and can not be changed.
- The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
  Note that the security and other related issues caused by the unchanged password shall be responsible for the user.
- If you check the "**Remember my password**" option when your input is done, in future you will be logged in automatically without being prompted to enter the login information.

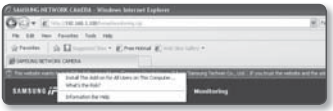
- You will experience the best video quality if the screen size is 100%. Reducing the ratio may cut the image on the borders.

INSTALLING ACTIVEX

If connecting to a camera for the first time, you will see the installation message. Then, install the required ActiveX to access the camera and control the video from it in real time.

1. When accessing the start screen of the monitoring page, click the yellow warning message in the top of the page.

2. Click <**Install This Add-on for All users on This Computer...**>.



3. The security warning popup appears, click [**Install**].
4. When the required ActiveX is installed properly after your access to the camera, the Live screen should appear.

Internet Explorer - Security Warning
Do you want to install this software?
Name: Samsung Smart Viewer
Publisher: Samsung Techwin Co., Ltd.
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

INSTALLING SILVERLIGHT RUNTIME

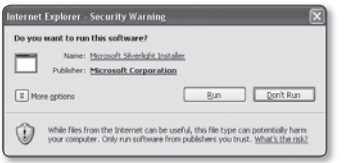
If your PC has not installed Silverlight Runtime or has just installed an old runtime version, you will be redirected to the Silverlight Runtime installation page automatically when accessing the web viewer.

1. Click <**Click Here**>.

2. When the file download dialog pops up, click <**Run**>.

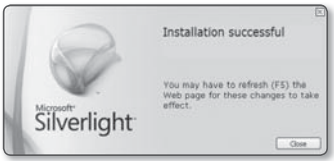
File Download - Security Warning
Do you want to run or save this file?
Name: Silverlight.exe
Type: Application, 7,63 MB
From: 192.168.1.100
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

3. When the download is completed, click <**Run**>.


Internet Explorer - Security Warning
Do you want to run this software?
Name: Microsoft Silverlight Installer
Publisher: Microsoft Corporation
More options
Run
Don't Run
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

4. The Silverlight Runtime installation page will be displayed. <**Install now**> to proceed with the installation.

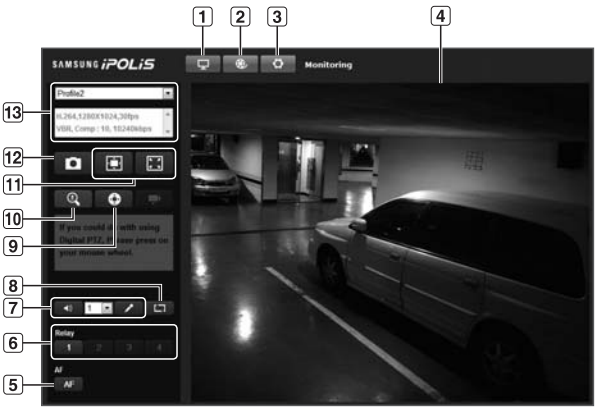
5. When done, click <**Close**>.


Installation successful
You may have to refresh (F5) the Web page for these changes to take effect.
Microsoft
Silverlight
Close

6. Close and restart the web browser, and try to access the Web Viewer.
When Silverlight Runtime is properly installed, you will see the Live screen.

- For normal installation, set the Block Popup setting as follows:
  ex) **Internet Explorer → Tools → Block Popup → Turn Off Pop-up Blocker (B)**
- However, MAC OS X users who are not connected to the Internet can use the provided installation CD to install Silverlight Runtime (Run the executable "Silverlight_xxx.dmg" in the CD. You will be guided through installation of the software).

USING THE LIVE SCREEN



Item	Description
1 **Monitoring**	Move to the monitoring screen.
2 **Playback**	Switch to the monitoring screen that plays recording data in the Micro SD memory.
3 **Setup**	Move to the Setup screen.
4 **Viewer Screen**	Displays the Live video on the screen.
5 **Auto Focus**	Fit the focus automatically.
6 **Alarm Output**	Activate the Alarm Out port.
7 **Audio**	Display the audio Listen and Talk toggle button on the screen.

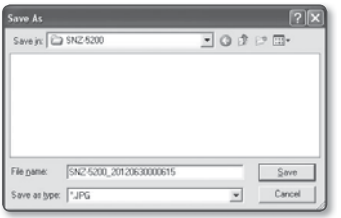
Item	Description
8 Hide the alarm indicator	Hides the alarm indicator near the border of the viewer screen. ■ In the following cases, the alarm message will pop up on the border of the viewer. - If an event (alarm, motion detection, video analysis) occurs - If the camera is turned off - If the network is disconnected
9 PTZ	Control the pan/tilt/zoom operations of the camera. ■ The pan/tilt operations will be enabled only if the camera is connected to a pan/tilt-compliant receiver.
10 Digital PTZ	You can use the mouse wheel to activate the digital zooming.
11 Screen Optimization, Full Screen	Adjust the screen to the optimal size, and display the Full Screen icon on the Live screen.
12 Capture	Saves the snapshot as an image file in the .bmp or .jpg format.
13 Video Format	You can select a profile type in <**Video profile**> under the <**Audio & Video**> setup menu. If the "Invalid codec" message is displayed, select a profile type from the profile list again.

■ If the temperature drops below the operational range, video signal may not be produced. In such cases, please wait for the video.

■ Web pages related to playback and setting menus are accessible only by the admin. For other user accounts, the buttons will be deactivated.

To capture the snapshot

1. Click [**Capture (** **)**] on the scene to capture.
   The Capture dialog should appear.
2. Click [**Save**] button.
   The screenshot will be saved in the specified path.



- If you encounter an interrupted video when capturing the image with IE8 on a Windows 7-based PC, deselect "**Turn On Protected Mode**" from "**Tools – Internet Options – Security**".

To toggle the audio sound

1. Click the [**Audio (** **)**] button.
   The corresponding button will be displayed in the Viewer.
2. Click the button to listen to / mute the sound as you wish.
   This button operates as a toggle button.

To toggle the microphone sound

1. Click the [**Mic (** **)**] button.
   The corresponding button will be displayed in the Viewer.

- "**Any available audio capture device cannot be found!**" message appears if there is no Microphone.

2. Click the button to start / stop talking.
   This button operates as a toggle button.
   The Silverlight permission dialog appears when you click the microphone button.

- As the AUDIO and MIC buttons (,) are simply to display or hide the toggle button on the viewer screen, you cannot control the actual operations of those buttons. So if you want to adjust the microphone or audio settings, use the toggle button on the viewer screen.

To fit the full screen

1. Click the [**Full Screen (** **)**] button.
   The corresponding button will be displayed in the Viewer.
2. Click the button.
   This will fit the Viewer to the full screen.
3. To exit the full screen mode, press [**Esc**] on the keyboard.

- For the ActiveX viewer, you can just click an appropriate button on the page to perform the operation as the audio I/O buttons and the Full Screen button are not displayed in the top of the screen.

To control the PTZ

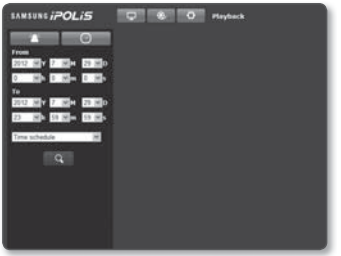
1. Press the [**PTZ (** **)**] button.
2. When the PTZ button bar appears on the screen, use the direction buttons to adjust the camera angle, zoom factor or focus to your preference.

- For further details on PTZ use, refer to "**PTZ setup**". (page 47)

SEARCH AND PLAY BY EVENT

- Before you can play the video, you must configure the record settings. For details on record settings, refer to "**SD record**". (page 63)

1. Click the [**Playback (** **)**] button.
2. Specify the start time and end time of your search.
3. Select an event type for your search within the specified period.
4. Click the [**Search (** **)**] button.
   The search results will be displayed in the list.



- If more than 800 events are recorded within the search period, your search will be limited up to the date when the 800th event is recorded.
  For instance, if the search period is between 10th and 15th day of the month, and more than 800 events were recorded 10th through 11th, your search will be limited up to 11th day with a total of 800 events, and events after then (from 12th) will not be found.

5. Select a data item to play in the search list.
6. Click the [**Play (** **)**] button.
7. To stop playing the video, click [**Stop (** **)**].
   To return to the search screen, click [**Exit (** **)**].

SEARCH AND PLAY BY TIME

- Before you can play the video, you must configure the record settings. For details on record settings, refer to "**SD record**". (page 63)

1. Click [**Search by Time (** **)**].
2. Click a desired date in the calendar.
   The video on the specified date will be played.
3. If the video playback is stopped, select a time and click [**Play (** **)**] to play the video for the selected time.
   While the video is being played, the recording time for the current video will be shown.
4. Search for the video forward or backward, and control the play speed.
   If the video is being played, the button will switch to [ ] with the information of the playback direction and speed.
   - To control the play speed
     If selecting ▶▶, the button will switch to x1, x2, x4, x8, and the play speed will increase accordingly.
     If selecting ◀◀, the button will switch to x8, x4, x2, x1, and the play speed will decrease accordingly.
   - To control the playback direction
     If you see the ▶▶ button with the play speed displayed, the video will be played forward; Whereas, if you see the ◀◀ button with the play speed displayed, the video will be played backward.
5. Move [**Time bar (** **)**] to a desired time point of the video before playing it.
   The time containing a normal recording file will be highlighted in blue; the time with the event recording will be highlighted in red.

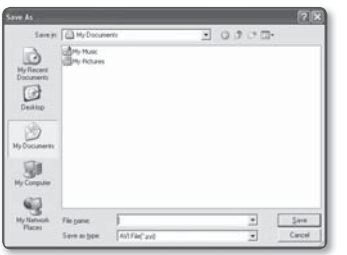
- The time search is not available with other web browsers than Internet Explorer.

To check time information of the playing video

1. Click the [**About (** **i** **)**] button.
2. Date and time information appears on the screen.

To back up the searched video

1. Click [ ] on the scene to back up.
   Save as window appears.
2. Click [**Save**].
   The selected data will be backed up to the specified path in .avi format.



To play the backup video

You can play the video stored (for the backup purpose) with Windows Media Player or VLC Media Player.

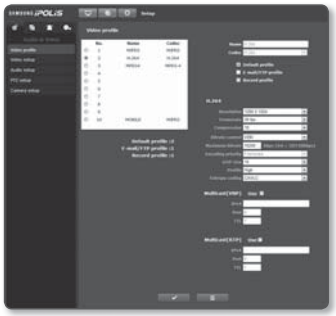
SETUP

You can configure the audio & video, network, event and system settings of the camera via the network.

1. In the Live screen, click [**Setup (**)].
2. The Setup screen appears.

AUDIO & VIDEO SETUP

Video profile



1. From the Setup menu, select the <**Audio & Video (**)> tab.
2. Click <**Video profile**>.
3. Select a <**Video profile**> number.
4. Click the input box of each item and enter / select a desired value.
   - The context menu may differ depending on the selected codec type.
   - Default profile : This is the default video profile.
   - E-mail/FTP profile : Video profile to be transferred to the specified email or FTP site.
     - Only the MJPEG codec can be set as the E-mail/FTP profile.
   - Record profile : This is the profile that is applied to video recording.
5. When done, click [**Apply (**)].

- MPEG-4 videos can not be stored in the Micro SD memory.
- Profiles 1, 2 and 3 are provided by factory default that cannot be deleted or renamed; besides, the codec cannot be changed in any way.

To add a video profile

You can add as many codecs as necessary so that a variety of profiles can be applied according to the recording condition.

1. Select a profile number.
2. Provide the name and select a codec.
3. Specify the conditions under which the codec will be applied.
4. Specify the details of the selected codec including resolution and frame rate.
   - Resolution : Set the video size of the MPEG-4, H.264, and MJPEG files.
   - Framerate : Specify the frame rate.
   - Compression : Specify the compression rate of the video.
   - Bitrate control : You can select one from constant bit rate and variable bit rate for compression. Constant bit rate (CBR) varies the video quality and fixes network transfer bit rate, while variable bit rate emphasizes the quality by varying network transfer bit rate.
   - Maximum bitrate : Specify the maximum bit rate of the video.

     ▪ As the bit rate can be adjusted limitedly according to the resolution, frame rate and screen complexity, the actual bit rate can be greater than the maximum bit rate. So you must consider the use conditions when setting the value.

   - Encoding priority : You can set the video transfer method to Framerate or Compression.
   - GOP size : Select a GOP size between 1 and 15.
   - Profile : You can select the H.264 profiling method.
   - Entropy coding : Reduce the possible compression loss due to encoding.
   - Multicast(VNP) : Specify the use of the VNP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : Set the TTL for the VNP packet.
   - Multicast(RTP) : Specify the use of the RTP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : You can set the TTL for the RTP packet.

What is GOP size?

GOP (Group of Pictures) is a set of video frames for MPEG-4 and H.264 format compression, indicating a collection of frames from the initial I-Frame (key frame) to the next I-Frame. GOP consists of 2 kinds of frames: I-Frame and P-Frame.

I-Frame is the basic frame for the compression, also known as Key Frame, which contains one complete image data. P-Frame contains only the data that has changed from the preceding I-Frame.

You can set between 1 and 15 for the MPEG-4 and H.264 CODEC.

Video setup

1. From the Setup menu, select the <**Audio & Video (** **)**> tab.
2. Click <**Video setup**>.
3. Select a <**Video source**> mode.
   - Flip mode : Turn upside down the image that is captured by the camera.
   - Mirror mode : Flip horizontal the image that is captured by the camera.
4. Set the <**Video output**>.
   - If you select <**Off**>, the video signal will not be output via the VIDEO OUT port.
5. Specify the privacy zone.
6. Select a video output type.
7. When done, click [**Apply (** **)**].

To set the privacy zone

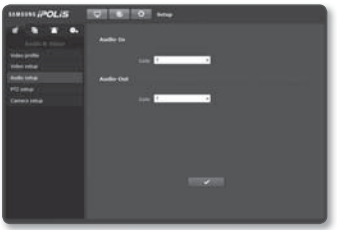
You can specify a certain area of the camera video to be protected for your privacy.

1. Set it to <**On**>.
2. When done, click [**Apply (**)].
3. Place the cursor at a point in the video and drag it to whatever you need.
4. Provide a name and press [**OK**].
5. If you want to delete an area in the list, select one and click [**Delete (** Delete **)**].

Audio setup

You can configure the I/O settings of the audio source from the camera.

1. From the Setup menu, select the <**Audio & Video (**)> tab.
2. Click <**Audio setup**>.
3. Adjust the audio I/O levels to your preference.
   - Audio-In : Set the audio input value.
   - Audio-Out : Set the audio output value.
4. When done, click [**Apply (**)].



PTZ setup

Configure the connection settings to the external pan/tilt receiver so that you can control the PTZ operations via the receiver connected to the RS-485 port of the camera.

1. Select the <**Audio & Video (** **)**> tab from Setup menu.
2. Click <**PTZ setup**>.
3. Specify the serial port.
   You can set the RS-485 communication mode for pan/tilt-compliant receiver that is connected to the network camera.
   - Protocol : From SAMSUNG-T/ SAMSUNG-E / PELCO-D/PELCO-P / SUNGJIN, select the same protocol as that of the receiver.
   - Camera ID : Provide a camera ID.
   - Baudrate : Transfer rate for RS-485 communications
   - Data bit : Specify the data bit.
   - Parity bit : Specify the parity bit.
   - Stop bit : Specify the stop bit.
4. When done, click [**Apply (** **)**].

■ All these operations above mentioned will be enabled only if the network camera is properly connected to the pan/tilt-compliant receiver. And the serial port for the pan/tilt operations should be properly specified.

■ The baud rate may not be controlled depending on the product specifications.

5. Click [**Direction Adjustment (** **)**].
   - [**Change direction to (** **)/(** **)/(** **)/(** **)**] : Change the direction of camera lens.
   - [**Moving speed control (** 6 **)**] : The bigger the number is, the faster the moving speed becomes.

6. Set the zoom and focus control buttons.
   - [**Zoom In (**)] : Zooms in the screen.
   - [**Zoom Out (**)] : Zooms out the screen.
   - [**Adjust Focus (** /)] : Adjusts the focus in the screen.
   - [**Zoom Speed Control (**)] : The bigger the number is, the faster the zoom speed becomes.

7. Set the preset.

- The pan/tilt/zoom operations can be controlled only if the camera is connected to a pan/tilt receiver with a proper <**Serial Setup**>.

To add a preset

1) Select the preset number to add.
2) Set the name for the preset.
3) Press the [+] button.

To delete a preset

1) Select the preset number to delete.
2) Press the [ ] button.

To move to a desired preset

1) Select a preset number that you want to move.
2) Press the [ ] button.

Camera setup

You can change the camera settings according to the environment where the camera is located.

1. From the Setup menu, select the <**Audio & Video (** **)**> tab.
2. Click <**Camera setup**>.
3. Configure the settings as necessary of : SSDR, White balance, Backlight, Exposure, Special, Focus, OSD, Time OSD
4. When done, click [**Apply (** **)**].
   - If a certain time (timeout: 240s) is elapsed with your not pressing the [**Apply** ( )] button after changing the settings, your changes will not be applied.

SSDR (Samsung Super Dynamic Range) Setup

In a scene where the difference between bright and dark is severe, you can increase the brightness of the dark area alone to regulate the overall brightness.

1. Select <**SSDR**>.
2. Set <**Mode**> to <**On**>.
3. Configure the <**Level**> and <**D-Range**> settings as necessary.
   - Level : Adjust the level of the dynamic range.
   - D-Range : Select the amplitude area of the dynamic range.

White balance Setup

You can correct the image colors based on white under any lighting conditions.

1. Select <**White balance**>.
2. Select <**Mode**>.
   - ATW : Corrects the colors of the camera video automatically.
   - Manual : You can adjust the red and blue gains of the camera video manually.
   - AWC : Corrects the colors of the camera video to be optimized to the current lighting condition and screen mode.
     To obtain the optimal condition for the current lighting, put the focus of the camera to a white paper and press the [**AWC Set**] button. If the lighting environment is changed, you should readjust the settings accordingly.
   - Outdoor : Automatically corrects the video colors of the camera to be optimized to the outdoor environment.
   - Indoor : Automatically corrects the video colors of the camera to be optimized to the indoor environment.

▪ In AWC mode, click the [**AWC Set**] button if you want to keep the white balance level of the current image.

▪ The white balancing may not work properly in the following conditions:
If this is the case, switch to AWC mode.
- If the surrounding condition of the object is out of the temperature correction range
  ex) Clear sky, sunset
- If the surrounding of the object is dark
- If the focus of the camera directly faces the florescent lighting or if the camera is installed in a place of variable illumination, the white balancing operation may be unstable.

BLC Setup

You can specify a desired area on the video manually and set the area to be displayed more clearly.

1. Select <**Backlight**>.
2. Set <**Mode**> to <**BLC**>.
3. Select each item and set it properly.
   - BLC level : You can change the level to adjust the brightness of the monitoring area.
   - BLC Box Adjustment : Use the arrow buttons to adjust the size and position of the BLC Box.
   - BLC Box Step : Specify the pixel unit for movement. You can use the arrow buttons of <**BLC Box Adjustment**> to add or reduce the pixels.

HLC (Highlight Compensation) Setup

When a strong light such as streetlamp or headlight faces forward to the camera, you can mask that exposed area in order to protect it from being saturated.

1. Select <**Backlight**>.
2. Set <**Mode**> to <**HLC**>.
3. Select each item and set it properly.
   - HLC level : Adjust the brightness level so as to remove the incoming highlight from a specific condition.
   - Mask tone : Adjust the mask tone of the highlighted area.

- At night operation, this function will be activated only if the incoming highlight exceeds a certain area in a low contrast environment.
- At night operation, HLC will not function in too a bright or too a dark scene.

Exposure Setup

You can adjust the exposure level of the camera.

1. Select <**Exposure**>.
2. Select each item and set it properly.
   - Brightness : Adjust the screen brightness.
   - Shutter mode : Adjust the electronic shutter of the camera.
     - ESC (Electronic shutter control) : Adjust the shutter speed automatically according to the ambient brightness.
     - Manual : Adjust the shutter speed of the camera manually.
     - A.FLK (Anti flicker) : Select this feature if you encounter a flickering screen due to a frequency mismatch with the ambient lighting.
   - Shutter speed : Control the shutter speed manually.
   - SSNR3 : Specify the use of background noise reduction for a low contrast scene.
   - SSNR3 level : Adjusts background noise reduction under low illumination.
   - Sens-up mode : Automatically senses the darkness level at night or in a low contrast scene and extends the accumulation time accordingly for a bright and sharp image.
     - If you set the shutter mode to Manual/A.FLK, SENS-UP mode will be deactivated.
     - The greater the video accumulation factor is, the brighter the screen is but the afterimage of a moving object grows accordingly.
   - Sens-up limit : Set the work condition to Auto mode in a low contrast scene.
   - Iris : You can set the camera iris to AUTO or MANUAL to your preference.
     - For a camera with the shutter type of ESC, the iris will operate properly only if it is set to <**Manual**>.
   - Iris F-No : If the iris mode is set to Manual, specify the F number of the iris.
   - AGC mode : Select AGC Control mode.
     Adjust the gain value of the video (that, in particular, was recorded at a low contrast scene and had a lower brightness level than normal) to control the video brightness.
   - AGC Val : If the AGC mode is set to Manual, specify one between 0dB and 36dB.

Special Setup

1. Select <**Special**>.
2. Select each item and set it properly.
   - DIS : Specify the use of anti-shake function.
   - Day & night : You can switch the mode to adjust the black and white level as well as the colors.
     - Color : Always displays the video in colors.
     - B/W : Always displays the video in black and white.
     - Auto : Displays in color mode during normal daytime and switches to black and white mode in a low contrast scene at night.
       - If you set the AGC mode to OFF from <**Exposure**>, the AUTO DAY/NIGHT mode will be disabled accordingly.
   - Dwell time : This is the time while each applicable lighting condition is kept in order to enable the switch between day and night modes.
   - Duration : Specify the duration of auto sequence.
   - Sharpness mode : Adjust the overall sharpness of the image.
     If selecting <**On**>, you can adjust the sharpness of the image.
   - Sharpness level : The higher the level is, the sharper and clearer the outline of the image becomes.
   - Gamma : Adjust the contrast of the image.
   - Color level : Adjust the color level of the image.

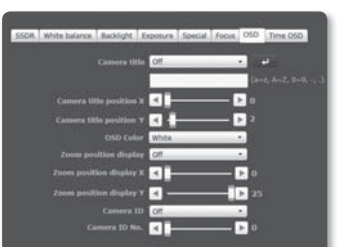
Focus Setup

1. Select <**Focus**>.
2. Select each item and set it properly.
   - Mode
     - Manual : The focus will be adjusted manually according to the zoom factor.
     - Auto : The focus will be adjusted automatically according to the zoom factor.
     - One push af : Auto Focus will be performed once after the zooming operation.
   - Digital zoom : Specify the use of digital zoom.
   - Digital zoom limit : Specify the limit of the digital zoom.

- Zoom tracking : Specify the focus sync mode with the zooming operation.
  - Off : Only the zoom lens will work.
  - Auto-Track : It will control (detect and correct) the zooming operation to keep fitting the focus.
  - Tracking : The zooming operation will be guided by the focus track.
- Zoom speed : Adjust the zoom tracking speed.
- Init. lens : Reset the lens to prevent the step-out in zoom mode.
- Duration : Specify the frequency of resetting the lens.
  - You can specify the date of resetting the lens that will perform in auto focus mode. Specify the time between 1 and 7 days, and the resetting will be performed at 24-hour interval starting from the specified date.

OSD Setup

1. Select <**OSD**>.
2. Select each item and set it properly.
   - Camera title : Specify whether or not to display the camera title on the screen.
     - You can enter up to 15 characters for the title.
   - Camera title position X, Y : Specify the coordinates where the camera title is displayed on the screen.



   - OSD Color : Set the OSD menus and the color of the time OSD to be displayed on the screen.
   - Zoom position display : Specify whether or not to enable the Zoom position display on the screen.
   - Zoom position display X,Y : Specify the "**Zoom position display**".
     - If any of the coordinates are overlapped or duplicated, the position will not be displayed properly.
   - Camera ID : Specify whether or not to display the camera ID number on the screen.
   - Camera ID No. : Select a number between 0 and 255 for the camera ID.

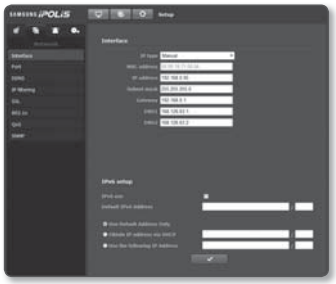
Time OSD Setup

1. Select <**Time OSD**>.
2. Select each item and set it properly.
   - Time display : Specify the use of time display on the screen.

- Date format : Specify the date format that will be displayed on the screen.
- Time position display X, Y : Specify the position of time display on the screen.
- Display weekday : Specify the date display on the screen.

NETWORK SETUP

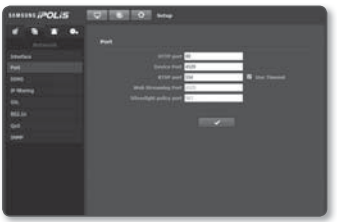
Interface



1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**Interface**>.
3. Set the <**Interface**> and <**IPv6 setup**> as necessary.
   - IP type : Select an IP connection type.
     - Manual : Specify the IP address, Subnet mask, Gateway, DNS1, and DNS2.
     - DHCP : Specify the DNS1 and DNS2.
     - PPPoE : Specify the DNS1, DNS2, Name and Password.
     - If you set it to <**Manual**>, you should specify the IP, Subnet mask, Gateway, DNS 1 & 2 manually.
   - MAC address : Shows the MAC address.
   - IP address : Displays the current IP address.
   - Subnet mask : Displays the <**Subnet mask**> for the set IP.
   - Gateway : Displays the <**Gateway**> for the set IP.
   - DNS1/DNS2 : Displays the DNS(Domain Name Service) server address.
   - IPv6 use : Specify the use of IPv6.
   - Default IPv6 Address : Obtains the IPv6 address to access the IPv6 network.
     - Use Default Address Only : Use only the default IPv6 address.
     - Obtain IP address via DHCP : Display and use the IPv6 address obtained from the DHCP server.
     - Use the following IP Address : Enter an IP address manually and use it.
4. When done, click [**Apply (** **)**].

- The IP addressing system will be defaulted to DHCP.
  If no DHCP server is found, the previous settings will be restored automatically.

Port



1. From the Setup menu, select the <**Network ( )**> tab.
2. Click <**Port**>.
3. Type in each item in the Port menu as necessary.
   - Neither the port range between 0 and 1023 nor port 3702 is available.
   - HTTP port : HTTP port used to access the camera via the web browser.
     The default is 80(TCP).
   - Device port : Set a port used to transfer video signals with the Samsung protocols.
   - RTSP port : Used to transfer videos in the RTSP mode; the default is 554.
   - Web Streaming Port : Used to transfer videos to the Web Viewer; the default is 4520.
   - Silverlight policy port : Silverlight is used to permit to acquire a network connection; the default is 943.
     - The port range of the Web Streaming is between 4502 and 4534. If the Device port is with this effective range, the Web Streaming port should be specified the same as the Device port.
     - You cannot change the Web Streaming/Silverlight policy server port of a camera.
4. When done, click [**Apply ( )**].

DDNS

DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of a camera into a general Host Name so that the user can easily remember it.

1. From the Setup menu, select the <**Network ( )**> tab.
2. Click <**DDNS**>.
3. Select <**DDNS**> that you want to use.
4. Type in the DDNS items according to the selected type.
   - Samsung DDNS : Select this if you use the DDNS server provided by Samsung Techwin.

- Public DDNS : Select one of provided public DDNS servers when you use a public DDNS server.
  - Host name : Enter the name of the host (i.e., host name of Dyndns) that is registered with the DDNS server.
  - User name : Enter the user name for the DDNS service. (i.e., user ID that is registered with Dyndns)
  - Password : Enter the password for the DDNS service. (i.e., password that is registered with Dyndns)

5. When done, click [**Apply ( )**].

Registering with DDNS

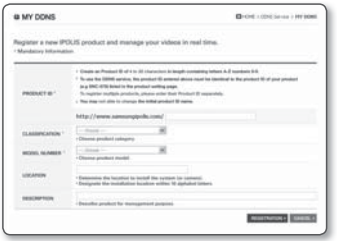
To register your product with the Samsung DDNS

1. Visit the iPOLiS web site(www.samsungipolis.com) and sign in with a registered account.

2. From the top menu bar, select <**DDNS SERVICE**> - <**MY DDNS**>.

3. Click [**PRODUCT REGISTRATION**].
4. Enter the product ID.
   - You must perform the duplicate check for the ID that you entered.

5. Select a <**CLASSIFICATION**> and specify the <**MODEL NUMBER**>.
6. Specify the product location with a description if necessary.
7. Click [**REGISTRATION**].
   The product will be added to the product list that you can check.



To connect to the Samsung DDNS in camera setup

1. From the DDNS setup page, set <**DDNS**> to <**Samsung DDNS**>.
2. Provide the <**Product ID**> that you registered product ID with the DDNS site.
3. Click [**Apply (** ✓ **)**].
   When the connection is successfully made, you will see the message of <**(Success)**> on the screen.

Configuring public DDNS in Camera Settings

1. Open the DDNS settings page and select <**Public DDNS**> for <**DDNS**>.
2. Enter the corresponding site's host name, user name and password.
3. Click [**Apply (** ✓ **)**] button.
   If the connection properly establishes, <**(Success)**> appears.
4. When done, click [**Apply (** ✓ **)**].

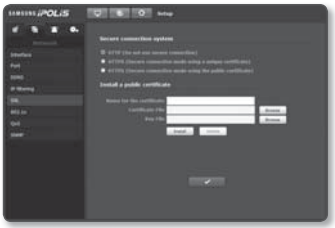
IP filtering

You can create a list of IPs that you want to grant or deny access to them.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**IP filtering**>.
3. Select <**Filtering type**>.
   - Deny : If selecting this, access from those IPs that are added to the filtering will be restricted.
   - Allow : If selecting this, access from only those IPs that are added to the filtering will be accepted.
4. Provide the IP that you want to grant or deny access from.
   For IPv4, the default IP address is 0.0.0.0, and the default prefix is 32.
5. Select desired IP address to be approved or rejected from the entered IP addresses. Only the selected IPs are filtered out.
6. When done, click [**Apply (** **)**].

SSL

You can select a secure connection system or install the public certificate for this purpose.



1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**SSL**>.
3. Select a secure connection system.
   - To access the camera using HTTPS mode, you have to type the IP address for the camera in the form of "https://<Camera_IP>".
4. Search for the public certificate that you want to install on the camera.
   To install the certificate on the camera, you need to provide a certificate name (it can be arbitrarily assigned by the user), certificate file issued from the certification authority and a key file.
   - The <**HTTPS (Secure connection mode using the public certificate)**> item will be active only if there exists a public certificate installed.
5. When done, click [**Apply (** **)**].

Installing the certificate

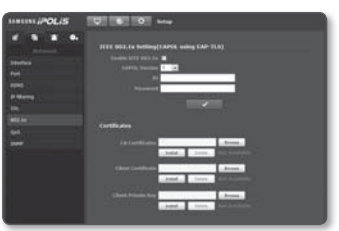
1. Enter the certificate name.
2. Select the certificate file to be installed and certificate key, and click [**Install (** Install **)**] button.

Deleting the certificate

1. Click [**Delete (** Delete **)**] button.
2. To delete a public certificate, you should access the network video decoder in the mode of <**HTTP (Do not use secure connection)**> or <**HTTPS (Secure Connection mode using a unique certificate)**>.

802.1x

When connecting network, you can choose whether using 802.1x protocol, and then install the certification.



1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**802.1x**>.
3. Set the <**IEEE 802.1x Setting(EAPOL using EAP-TLS)**>.
   - Enable IEEE 802.1x : Specify the use of the 802.1x protocol.
   - EAPOL Version : Select version 1 or 2.
   - ID : Enter the EAPOL ID.
   - Password : Enter the EAPOL password.

■ If the connected network device does not support the 802.1x protocol, the protocol will not operate properly even if you set it.

To install/remove 802.1x related certificates

1. Press the [**Browse (** Browse **)**] button for each item and select a certificate to install.
2. If no certificate is installed, you will see “Not Available” appearing next to the selected item.
3. Press the [**Install (** Install **)**] button to start installation with a message of “Installed” next to the item.
4. Press the [**Delete (** Delete **)**] button to remove the certificate.

QoS

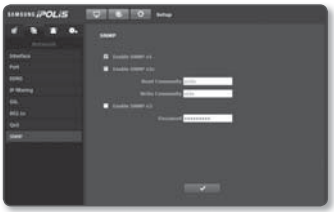
You can specify the priority to secure a stable transfer rate for a specific IP.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**QoS**>.
3. Provide the IP address.
   The default prefix is 32.
   For DSCP, the default is set to 63.
4. Select an IP address to which you will apply QoS.
   Only the selected IPs can be prioritized.
5. When done, click [**Apply (** **)**].

SNMP

With the SNMP protocols, you can allow the system or network admin to monitor the network devices on a remote site, and configure the environment settings.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**SNMP**>.
3. Specify the <**SNMP**>.
   - Enable SNMP v1 : SNMP version 1 will be active.
   - Enable SNMP v2c : SNMP version 2 will be active.
     - Read Community : Provide the name of the read community where you can access to the SNMP information. The default name is “pubic”.
     - Write Community : Provide the name of the write community where you can access to the SNMP information. The default name is “write”.



- Enable SNMP v3 : SNMP version 3 will be active.
  - Password : Specify the default password for SNMP version 3. The default password is “admin4321”.
    - The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
      Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

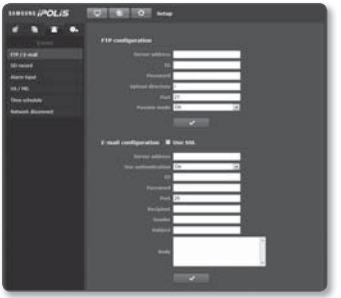
4. When done, click [**Apply (**)].

- SNMP v3 is only able to be set when the secure connection mode is HTTPS.

EVENT SETUP

FTP / E-mail

You can configure the FTP/E-mail server settings so that you can transfer the images taken with camera to your PC if an event occurs.



1. From the Setup menu, select the <**Event (**)> tab.
2. Click <**FTP / E-mail**>.
3. Select <**FTP configuration**> or <**E-mail configuration**> and enter / select a desired value.
   - FTP configuration
     - Server address : Enter the IP address of the FTP server that you transfer the alarm images to.
     - ID : Enter the user ID with which you will log in to the FTP server.
     - Password : Enter the user account password for logging into the FTP server.
     - Upload directory : Specify the FTP path where you will transfer the alarm images.

- Port : The default port of the FTP server is 21; however, you can use a different port number according to the FTP server settings.
- Passive mode : Select <**On**> if you need to connect in passive mode due to the firewall or the FTP server settings.

• E-mail configuration
- Use SSL : Specify the use of SSL.
- Server address : Enter the IP address of the email server that you use for the email transfer.
- Use authentication : Select whether to use authorization.
- ID : Enter the user ID for logging into the email server.
- Password : Enter the user account password for logging into the email server.
- Port : The default port of the email server is 25; however, you can use a different port number according to the email server settings.
- Recipient : Enter the address of the email recipient.
- Sender : Enter the address of the email sender. If the sender address is incorrect, the email from the sender may be classified as SPAM by the email server and thus may not be sent.
- Subject : Enter a subject for your email.
- Body : Provide the text for the massage. Attach the alarm images to the email that you are preparing.

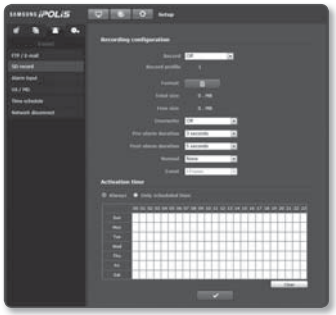
4. When done, click [**Apply (** ✓ **)**].

SD record

You can set the record conditions or the use of recording for the Micro SD memory, check the size of stored data, or format the Micro SD memory itself.

1. From the Setup menu, select the <**Event (** 🔔 **)**> tab.

2. Click <**SD record**>.

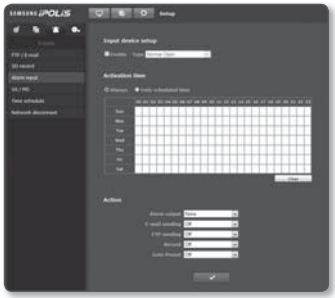


To make recording on the Micro SD memory

1. Check the <**Total size**> and the <**Free size**>.
2. If the Micro SD memory has a sufficient free space, set <**Record**> to <**On**>. Otherwise, check the stored data and if you find them not important, then click <**Format**> to format the Micro SD memory.
   - If your Micro SD memory card writes slowly, only one frame per second will be stored.
   - For a Micro SD memory card with a large capacity, the formatting will be slowed down accordingly.
   - If the size of data grows with time, only 1 fps can be stored even if you set the record quality to Full Frame.
   - As some space of the Micro SD memory card is reserved for the system, only about 90% of the total capacity is available for use.
3. Specify the record conditions.
   - Record profile : Display the number of profile to record.
   - Overwrite : If the Micro SD memory is full, this will delete old data and store new data in replacement.
   - Pre-alarm duration : Specify the saving time of the images before the alarm occurs. You can specify up to 5 seconds before the occurrence of the alarm.
   - Post-alarm duration : Specify the saving time of the images after the alarm occurred. You can specify up to 120 seconds after the occurrence of the alarm.
   - Normal : Make recording at a certain frame rate. <**Event**> recordings are not saved as <**Normal**>.
   - Event : Set the recording type for a certain event that occurs.
4. Specify the <**Activation time**>.
   - Always : Always check if an alarm occurs. It activates in operated mode when the alarm occurs.
     - If set to Always, the activation time cannot be changed.
   - Only scheduled time : Check if an alarm occurs at a specified day of the week for a specified time period. It activates in operated mode when the alarm occurs.
   - [Clear] : Reset all settings.
5. When done, click [**Apply (** **)**].

Alarm input

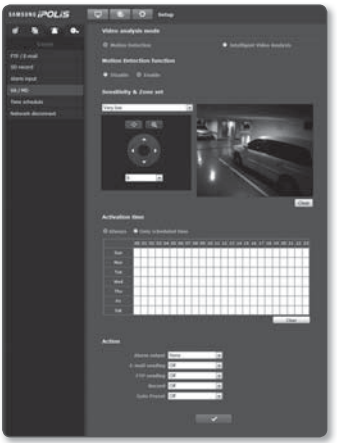
You can set the alarm input type, activation time, and operation mode.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Alarm input**>.
3. Specify an input device.
   - Type
     - Normal Open : It is normally open, but if it is closed, an alarm will be triggered.
     - Normal Close : It is normally closed, but if it is open, an alarm will be triggered.
4. Specify the <**Activation time**>.
   - Always : Always check if an alarm occurs. It activates in operated mode when the alarm occurs.
     - If set to Always, the activation time cannot be changed.
   - Only scheduled time : Check if an alarm occurs at a specified day of the week for a specified time period. It activates in operated mode when the alarm occurs.
   - [Clear] : Deselect the selected times.
5. Specify an operation that will perform if an alarm occurs.
   - Alarm output : Select whether to set the alarm output if an alarm is incoming, and specify the alarm output time.
   - E-mail sending : Specify the use of email transfer in the alarm input setup.
   - FTP sending : Specify the use of FTP transfer in the alarm input setup.
   - Record : Specify the use of recording in the alarm input setup.
   - Goto Preset : Moves to the specified preset location when setting the alarm input.
     - Only if the camera pan/tilt receiver is installed, GoTo Preset is available.
6. When done, click [**Apply (** **)**].

VA / MD

1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**VA / MD**>.



❖ Motion Detection (MD)

1. Select a motion detection mode.
2. Specify the use of motion detection.
3. Select a sensitivity level of the motion detection.
   The greater the level is, the lesser movement will be detected.
4. Use the drag-and-drop method to specify the detection area on the video.
5. Specify the activation time and activation condition.
   - For more information about <**Activation time**> and <**Action**>, refer to "**Alarm input**". (page 65)
6. When done, click [**Apply (** **)**].

- If you are controlling the Pan/Tilt/Zoom operation or fitting the focus of the camera, the motion sensor may not work.

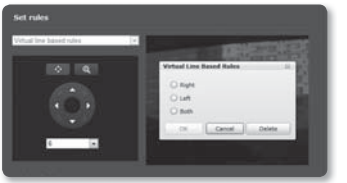
❖ Intelligent Video Analysis (VA)

1. Select an Intelligent Video Analysis mode.
2. Set whether to use the Intelligent Video Analysis function.
3. Specify the event rules.
4. Set whether you want to use the overlay or not.
   - If you set it to <**Enable**>, the event rules will be shown on the screen.
5. Select the detection sensitivity of a moving object.
   - Set to a lower sensitivity in environments that allow clear distinguishing of objects from background.
     Set to a higher sensitivity otherwise, such as in a dark place.
6. Specify the object size.
7. Specify whether or not the event area is displayed.
   - If you set it to <**On**>, the suspect area where the event occurs will be marked in a red box.
8. Specify the activation time and activation condition.
   - For more information about <**Activation time**> and <**Action**>, refer to "**Alarm input**". (page 65)
9. When done, click [**Apply (** ✓ **)**].

- Motion Detection and Intelligent Video Analysis cannot be used simultaneously.
- If camera is capturing a close object, the video analysis capability may degrade. In the following cases, the video analysis function may not produce a proper result on the default event and motion detections.
  - The object color or brightness is similar to the background.
  - Multiple movements continue occurring at random due to a scene change or other reasons.
  - A fixed object continues moving in the same position.
  - An object hides other objects behind.

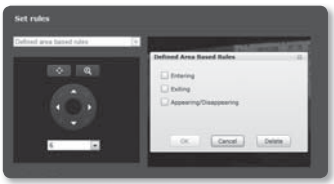
- Two or more objects overlap or one object divides in multiple portions.
- Too fast object (for a proper detection, one object should be found overlapping between contiguous frames).
- Reflection / blur / shadow due to a strong light such as direct sunlight, illumination, or headlamp.
- In severe snow, rain, wind or in dawn / dusk.
- A moving object comes close to the camera.

To use the IV analysis function according to the virtual line based rule



1. Set <**IV analysis function**> to <**Enable**>.
2. Set the event rule to <**Virtual line based rules**>.
3. Click a desired point in the video and drag it to the end point. Then, the popup window appears.
4. Select a desired <**Virtual Line Based Rules**>.
   - Right : A movement from left to right in the virtual line will be detected.
   - Left : A movement from right to left in the virtual line will be detected.
   - Both : A movement in any direction in the virtual line will be detected.
5. Click [**OK**].
   To cancel the existing line, right-click on the line and select [**Delete**] in the context menu.
6. When done, click [**Apply (** ✓ **)**].

To use the IV analysis function according to the defined area based rule



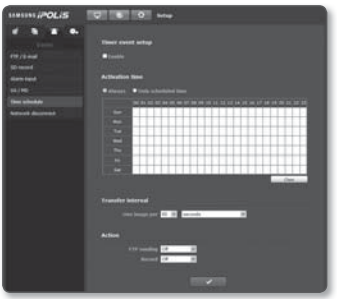
1. Set <**IV analysis function**> to <**Enable**>.
2. Set the event rule to <**Defined area based rules**>.
3. Click a corner point of a desired area in the video to display the popup window.
4. Select a desired <**Defined Area Based Rules**>.
   - Entering : An event where a moving object passes through the defined area and enters inside will be detected.
   - Exiting : An event where a moving object passes through the defined area and exits outside will be detected.
   - Appearing/Disappearing : Detects events of appearing and disappearing objects in the area specified by the user.
5. Click [**OK**].
   To cancel the specified area, right-click on the area and select [**Delete**] in the context menu.
6. When done, click [**Apply (** ✓ **)**].

To use the IV analysis function according to the whole area based rule

1. Set <**IV analysis function**> to <**Enable**>.
2. If you set the event rule to <**Entire area based rules**>, this will display the popup window.
3. Select a desired <**Entire Area Based Rules**>.
   - Appearing / Disappearing : Detects events of appearing and disappearing objects in the entire screen area selected by the user.
   - Scene Change : An event where the screen is changed at more than a certain time interval will be detected.
     - You can set the <**Scene Change**> rule along with rules : <**Appearing** / **Disappearing**>.
4. Click [**OK**].
5. When done, click [**Apply (** ✓ **)**].

Time schedule

You can set to save the video data at a certain interval as scheduled regardless of the actual occurrence of the event.



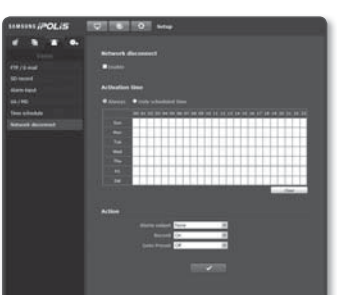
1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Time schedule**>.

To set the timer event

1. Set <**Timer event setup**> to <**Enable**>.
2. Specify the <**Activation time**>.
   - Always : Always activates in operated mode at the set interval.
   - Only scheduled time : Periodically activates in operated mode at a specified time and date.
3. Specify the <**Transfer interval**>.
4. Specify the activation conditions.
   - FTP sending : Specify the use of the FTP transfer if an event occurs.
   - Record : Specify the use of recording if an event occurs.
5. When done, click [**Apply (** **)**].

Network disconnect

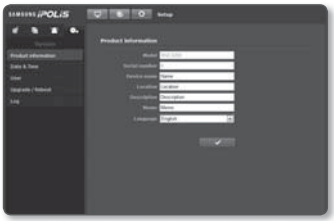
You can perform the saving/relay/preset operation after receiving an event of a physically disconnected network.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Network disconnect**>.
3. Specify the use of “Network disconnect”.
4. Specify the activation time and activation condition.
   - For more information about <**Activation time**> and <**Action**>, refer to “**Alarm input**”. (page 65)
5. When done, click [**Apply (** **)**].

SYSTEM SETUP

Product information



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Product information**>.
3. Check the camera information, or provide details according to your network environment.
   - Device name : Provide a device name that will be displayed on the Live screen.
   - Location : Specify the location where the camera is installed.
   - Description : Provide detailed information about the camera location.
   - Memo : Provide an explanation about the camera for better understanding.
   - Language : Select a preferred language for the Web Viewer OSD.

   ▪ The default language is set to English.
4. When done, click [**Apply (** **)**].

Date & Time

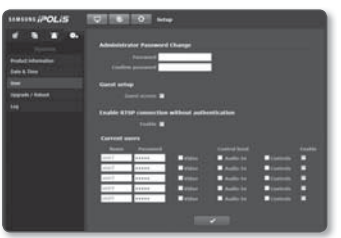
1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Date & Time**>.
3. Specify the time and date that will be applied to the camera.
   - Current system time : Displays the current time settings of your system.
   - Timezone : Specify the local time zone based on the GMT.
   - Use daylight saving time :
     If checked, the time will be set one hour before the local time zone for the specified time period.
     This option will be displayed only in areas where DST is applied.

- System time setup : Specify the time and date that will be applied to your system.
  - Manual : Specify the time manually.
  - Synchronize with NTP server : Sync with the time of the specified server address.
  - Synchronize with PC viewer : Synchronize the time with the connected PC.

4. When done, click [**Apply (** ✓ **)**].

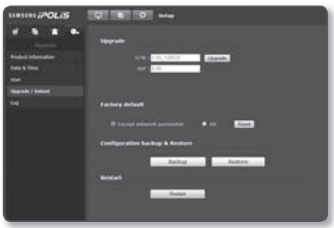
> ■ If you select the <**Synchronize with PC viewer**>, the standard timezone should be set the same as the current timezone in PC.

User



1. From the Setup menu, select the <**System (** ⚙ **)**> tab.
2. Click <**User**>.
3. Provide the necessary user information.
   - Administrator Password Change : Change the password for the administrator.
     ■ The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
     Note that the security and other related issues caused by the unchanged password shall be responsible for the user.
   - Guest setup : If you select <**Guest access**>, the guest account can access the Web viewer screen but can only view the live Viewer screen.
     ■ The ID/password for the guest account is guest/guest, which cannot be changed.
   - Enable RTSP connection without authentication : If you select <**Enable**>, you can access RTSP without logging in and view the video.
   - Current users : If you select <**Enable**>, you can set or change the user permissions.
     - Video : You can select a video profile in the Liver viewer screen.
     - Audio-In : The audio input option will be activated in the Live Viewer screen.
     - Controls : You can control MIC and alarm button.
4. When done, click [**Apply (** ✓ **)**].

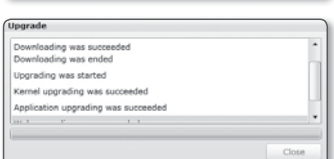
Upgrade / Reboot



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Upgrade / Reboot**>.
3. Select a desired item and set it appropriately.
   - Upgrade : Performs upgrading the system.
   - Factory default : Resets the system to the factory default.
     - Except network parameter : Resets all settings except for the Network settings.
     - All : Resets all settings including the camera settings. (however, the log information will not be reset)
       - The IP addressing system will be defaulted to DHCP if you reset the camera. If no DHCP server is found, the previous settings will be restored automatically.
   - Configuration backup & Restore : Backs up the current system settings before performing the restoration process. The system is automatically restarts after backup or restoration.
   - Restart : Restarts the system.

To perform the upgrade

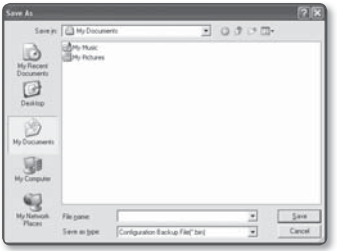
1. Click [**Upgrade**].
2. Click [**Browse**] and specify a file to upgrade.
3. Click [**Send**].
4. The "**Upgrade**" dialog appears where the progression will be shown in the bottom.



- It may take a max of 20 minutes for the upgrade process.
  If you forcibly terminate the upgrade process, upgrade will not be completed properly.
- You can download the latest version from the Samsung web site (www.samsungcctv.com).

To back up the current settings

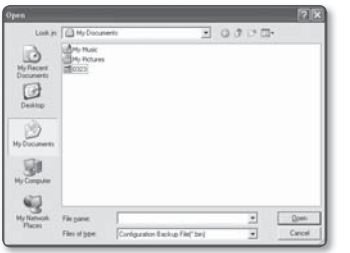
1. Click [**Backup**].
   The Save As dialog should appear.
2. Specify the backup path with a proper file name, and click [**Save**].
   The backup file will be saved to the specified path in the format of "**.bin**".



To restore the backup settings

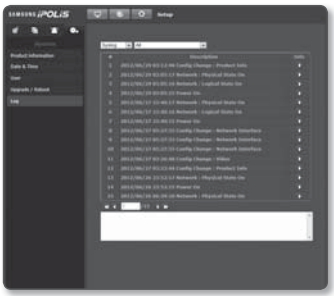
1. To restore the backup settings, click [**Restore**].
2. Select a backup file and click [**Open**].

- If you perform the backup or restoration, the web browser will be closed and the camera will reboots.



Log

You can check the system log or event log.



1. From the Setup menu, select the <**System ( )**> tab.
2. Click <**Log**>.
3. Select a log type.
   - Syslog : You can check the system logs where any system changes are recorded including the time information.
   - Evtlog : You can check the event logs including the time information.
4. From the right log list, select an item to search for.
   - If you select <**All**> in the top left dropdown list, all logs for the applicable log type will be displayed.
5. If one page can not display all the logs available, use the bottom buttons to move to the previous, next, or the last item.

- If you want to view the details of a log, click [**Info ( )**] in the right column of the log; the log information will be shown in the bottom pane.
- Each page displays 15 logs with the latest one displayed at the top.
- The event/system log list can contain up to 1000 logs; after that, the existing logs will be deleted from the oldest one each time a new log is created.

SPECIFICATION

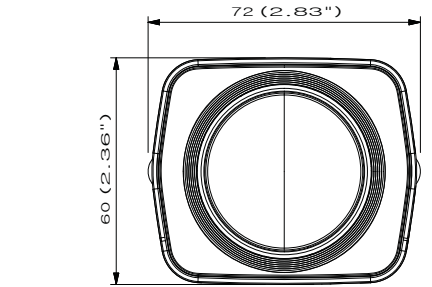
Items		Description
Video	Imaging Device	1/3" 1.3M PS CMOS
	Total Pixels	1,384(H) x 1,076(V)
	Effective Pixels	1,329(H) x 1,049(V)
	Scanning System	Progressive
	Min. Illumination	Color : 0.7 Lux (F1.6, 50IRE), 0.01Lux (Sens-up 60X, 50IRE) B/W : 0.08 Lux (F1.6, 50IRE), 0.001Lux (Sens-up 60X, 50IRE)
	S / N Ratio	52dB
	Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 704x480(N), 704x576(P), for installation
Lens	Focal Length (Zoom Ratio)	4.45~89mm (20X)
	Max. Aperture Ratio	F1.6(Wide) / F2.9(Tele)
	Angular Field of View	H : 56.56°(Wide) ~ 3.10°(Tele) V : 43.32°(Wide) ~ 2.34°(Tele)
	Min. Object Distance	1m
	Focus Cotrol	AF / One-Shot AF / Manual (Remote control via Network)
	Lens Type	DC Auto Iris
	Mount Type	Board-in type

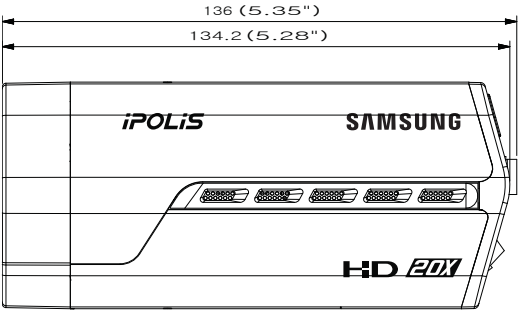
Items		Description
Pan / Tilt / Rotate	Pan Range	-
	Pan Speed	-
	Tilt Range	-
	Tilt Speed	-
	Rotate Range	-
	Preset	128ea
	Preset Accuracy	-
	Auto Tracking	-
Operational	Camera Title	Off / On (Displayed up to 15 characters)
	Day & Night	Auto (ICR) / Color / B/W
	Backlight Compensation	Off / BLC / HLC
	Wide Dynamic Range	-
	Contrast Enhancement	SSDR (Samsung Super Dynamic Range) (Off / On)
	Digital Noise Reduction	SSNRIII (2D+3D Noise Filter) (Off / On)
	Digital Image Stabilization	Off / On
	Motion Detection	Off / On (4 programmable zones)
	Privacy Masking	Off / On (8 programmable zones)
	Sens-up (Frame Integration)	Off / Auto (2X ~ 60X)
	Gain Control	Off / Low / Medium / High / Manual
	White Balance	ATW / AWC / Manual / Indoor / Outdoor
	Electronic Shutter Speed	Auto / A.FLK / Manual (1/30 ~ 30,000sec)

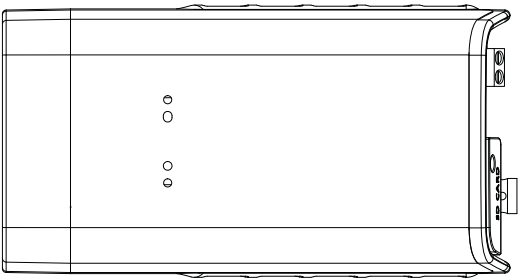
Items		Description
Operational	Digital Zoom	16X
	Flip / Mirror	Off / On
	Intelligent Video Analytics	Scene Change, Virtual Line, Enter / Exit, Appear / Disappear
	Alarm I/O	Input 1ea / Output 1ea (Relay)
	Remote Control Interface	RS-485
	RS-485 Protocol	SAMSUNG-T/E, PELCO-P/D, SUNGJIN
Network	Ethernet	RJ-45 (10/100BASE-T)
	Video Compression Format	H.264, MPEG-4, MJPEG
	Resolution	1280x1024, 1280x720P(HD), 1024x768, 800x600, 640x480, 320x240
	Max. Framerate	30fps
	Video Quality Adjustment	H.264/MPEG-4 : Compression Level, Target Bitrate Level Control MJPEG : Quality Level Control
	Bitrate Control Method	H.264/MPEG-4 : CBR or VBR MJPEG : VBR
	Streaming Capability	Multiple Streaming (Up to 10 Profiles)
	Audio I/O	Mic / Line in, Line out
	Audio Compression Format	G.711 μ-law
	Audio Communication	2-Way
	IP	IPv4, IPv6
	Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS

Items		Description
Network	Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1x Authentication
	Streaming Method	Unicast / Multicast
	Max. User Access	10 users at Unicast Mode
	Memory Slot	SD/SDHC Memory Slot
	ONVIF Conformance	Yes
	Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Denish, Portuguese, Czech, Polish, Turkish, Rumanian, Serbian, Dutch, Croatian, Hungarian, Greek
	Web Viewer	Supported OS : Microsoft Windows 7/VISTA/XP SP3, Apple MAC OS Supported Browser : Firefox, Google Chrome, *Apple Safari, Windows Internet Explorer 9.0(32bit)/8.0(32bit)/7.0(32bit)/6.0 SP3 * For Mac OSX, only the Safari browser is supported.
	Central Management Software	NET-i viewer
Environmental	Operating Temperature / Humidity	-10°C ~ +50°C (+14°F ~ +122°F) / 20 ~ 80% RH
	Ingress Protection	-
Electrical	Input Voltage / Current	12V DC, PoE(IEEE802.3af)
	Power Consumption	Max. 8W (12V DC), Max. 7.5W (PoE)
Mechanical	Color / Material	Dark Gray / Metal
	Dimension (WxHxD)	W72 x H60 x D136 mm
	Weight	540g

PRODUCT OVERVIEW







TROUBLESHOOTING

PROBLEM	SOLUTION
I can't access the camera from a web browser.	• Check to make sure that the camera's Network settings are appropriate. • Check to make sure that all network cables have been connected properly. • If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem. • If the camera is connected to a Broadband Router, verify that port forwarding is properly configured.
Viewer got disconnected during monitoring.	• Connected Viewers become disconnected upon any change to camera or network configurations. • Check all network connections. • If the camera is connected over an PPPoE network, it' s possible for Viewer to disconnect under poor network conditions.
I cannot connect to the system using a tab browser of Internet Explorer 7.0.	• When you try to connect to the system using a tab browser, the same cookie information is shared, resulting in errors when connected. Therefore, instead of using a tab browser, open a new browser window to connect to the system.
The camera connected to the network is not detected in the IP installer program.	• Turn off the firewall settings on your PC and then search the camera again.
Images overlap.	• Check whether two or more cameras are set to a single multicast address instead of different addresses. If a single address is used for multiple cameras, the images may overlap.
No image appears.	• If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the camera is connected to.

PROBLEM	SOLUTION
No JPEG file is transferred via e-mail on occurrence of intelligent video analysis event of camera even when the <Intelligent Video Analysis> is set to <Enable>.	• Verify the settings in the following sequence: A. Check <Data & Time> settings. B. The <Intelligent Video Analysis> should be set to <Enable>. C. Alarm Video Transmission must be enabled.
Can <Set rules> be configured even when the <Intelligent Video Analysis> is set to <Disable>?	• Yes, it can be. You can set rules for events despite of the intelligent video analysis setting.
No signal is found at the Alarm Output port even when an intelligent video analysis event is generated.	• Check alarm output port settings.
Cannot record into the Micro SD memory card.	• Check if the memory card is defective.
SD memory indicator does not turn on even when the Micro SD memory card is inserted.	• Check if the memory card is defective. • Check if the <Record> is checked in <Setup> → <Event> → <SD record> menu.
Micro SD memory card is inserted but the camera does not operate properly.	• Check if the memory card is inserted in the proper direction. Operation of memory card that is formatted by other devices is not guaranteed with this camera unit • Format the memory card again in <Setup> → <Event> → <SD record> menu.

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Component Name	License	License URL
lighttpd 1.4.25	BSD 2.0	http://www.opensource.org/licenses/bsd-license.html
librtp 1.20	BSD 1.0	
net-snmp-5.4	BSD	http://www.net-snmp.org/about/license.html

lighttpd is a secure, fast, compliant, and very flexible web-server that has been optimized for high-performance environments. It has a very low memory footprint compared to other webservers and takes care of cpu-load. Its advanced feature-set (FastCGI, CGI, Auth, Output-Compression, URL-Rewriting and many more) make lighttpd the perfect webserver-software for every server that suffers load problems.

Simple Network Management Protocol (SNMP) is an Internet-standard protocol for managing devices on IP networks. It is used mostly in network management systems to monitor the devices attached to the network for conditions that need administrative attention. Net-SNMP is a suite of applications used to implement SNMP v1, SNMP v2c and SNMP v3 using both IPv4 and IPv6.

For more additional information, send email to help.cctv@samsung.com.

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